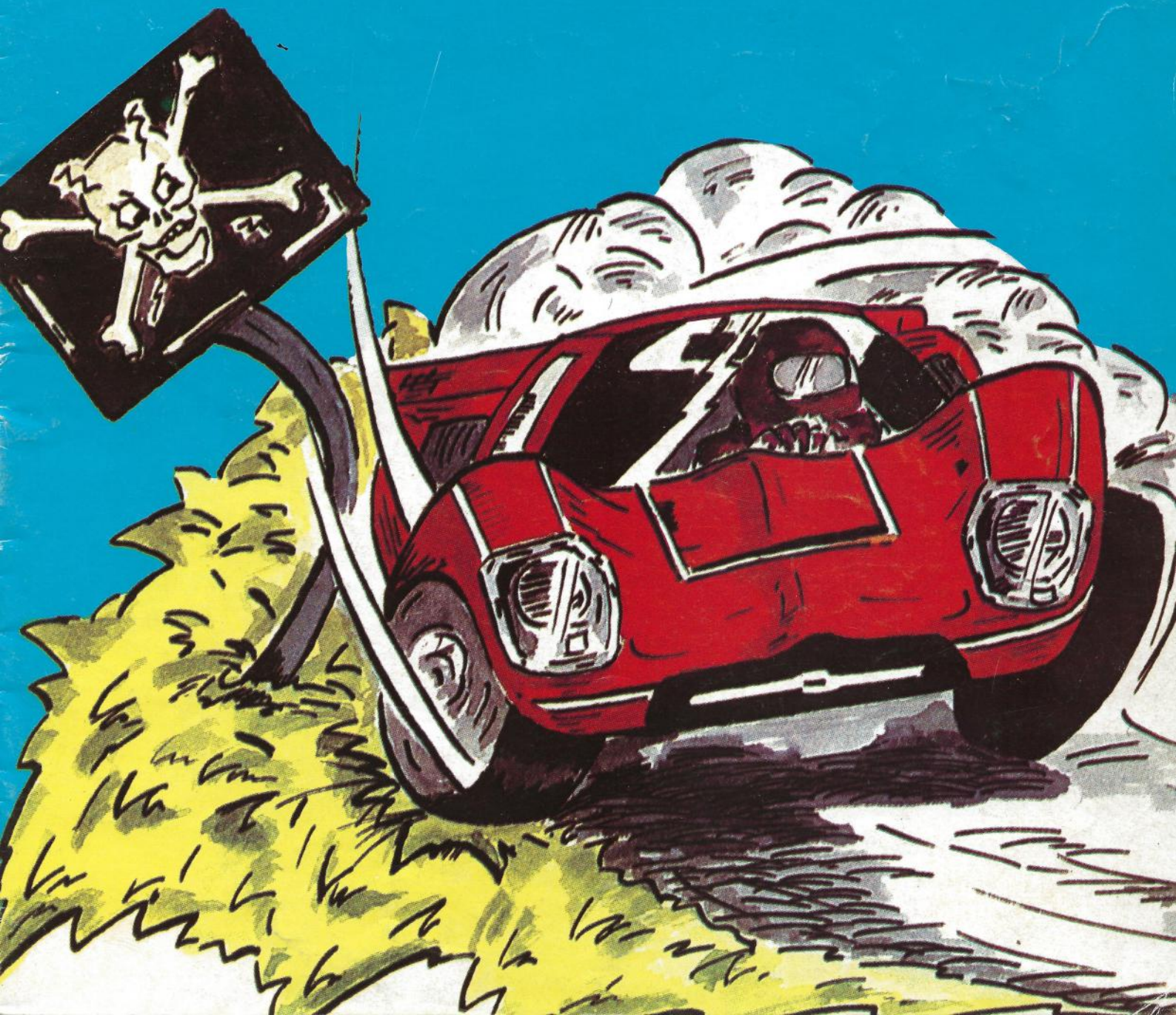
AMIGOS DEL MSX

295 PTS.

AÑO II N.º 9

- DRAW-EDITOR
- CONEJO
- HOJA ELECTRONICA
- LA BRUJA
- DARDOS
- GAUSS
- LOTERIA PRIMITIVA
- SABIO



TODO SOBRE EL

AMSTRAD

N.º 17 690 Ptas.

COLONIZA

SELECCION DE LOS MEJORES PROGRAMAS

AMIGOS DEL MSX

SUMARIO

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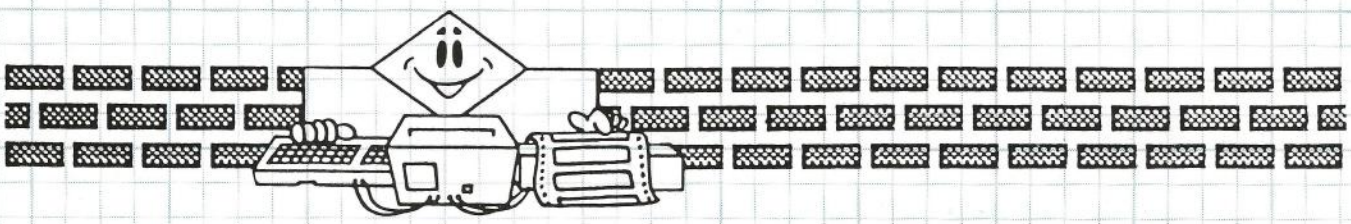


DRAW-EDITOR

```
10 REM ****************************
20 REM *                          *
30 REM *     MSX - DRAW EDITOR    *
40 REM *                          *
50 REM ****************************
60 REM
70 REM *      INICIALIZACION      *
80 REM *      Y PRESENTACION      *
90 REM
100 CLEAR 2000:MAXFILES=2
110 COLOR 8,1,1:SCREEN 2 ,
120 LINE(56,32)-(199,159),,B
130 LINE(57,33)-(198,158),,B
140 PSET(85,93)
150 DRAW"M93,60M99,60M102,73M103,73M106,60M112,60M118,85BM120,93M113,93M110,80M1
09,80M106,93M99,93M96,80M95,80M92,93M85,93BM121,93M135,93"
160 CIRCLE(135,83),10,,4.712,1.571
170 PSET(134,73)
180  DRAW"M126,73M125,72M124,71M124,70M125,69M126,68M148,68BM152,60M128,60":CIRC
LE(128,70),10,,1.571,4.713
190 PSET(129,80)
```

```
200  DRAW"M137,80M138,81M139,82M139,83M137,85M118,85BM152,60M157,70M162,60M170,6
0M162,76M170,93M162,93M157,83M152,93M144,93M152,76M148,68"
210 PAINT(130,65):PRESET(85,110)
220 OPEN"GRP:"AS#1
230 PRINT#1,"DRAW EDITOR"
240 PRESET(85,140)
250 'RAW"C8R50U7R4F1D2G1L3BD3BR1U9R4F1D2G1L3BD3BR1D2R2U2R2BG2R4U2D2R2U2R2D2R2U2B
U2LOBL6LOBR11BD1E1D4L5R7R2U4L2D2R1BR3R2D2L3R1U4R2D4R2R2U2L2U2R2"
260 FORK=0TO2000:NEXTK
270 DIM DM$(44):FOR N=1 TO 44
280 READ DM$(N):NEXT N
290 COLOR 1,8,8:SCREEN 2
300 DRAW"C1BM7,0R242"
310 FOR N=6 TO 174 STEP 8:COLOR 15
320 DM=DM+1:IF N=166 THEN PRESET(19,158):PRINT#1,"BS"
330 IF N<40 OR N>105 THEN PRESET(7,N):PRINT#1,DM$(DM):COLOR 1:PRESET(52,N):PRINT
#1,DM$(DM+22) ELSE PRESET(52,N):DRAW"C11":DRAW DM$(DM):COLOR 11:PRESET(64,N):PRI
NT#1,DM$(DM+22)
340 NEXTN:DRAW"C1BM7,187R52BR137R52"
350 COLOR 15:PRESET(66,184)
360 PRINT#1,"(PULSA UNA TECLA)"
370 IF INKEY$<>""THEN 370
380 IF INKEY$="" THEN 380
390 DEFINT A-Z:CP=15:CS=12:CB=1
400 COLOR CP,CS,CB:SCREEN 2,2
410 SPRITE$(1)=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(127)+CHR$(0)+CHR$(0)+CHR$(0)
420 SPRITE$(2)=CHR$(0)+CHR$(127)+CHR$(65)+CHR$(65)+CHR$(65)+CHR$(65)+CHR$(127)+C
HR$(0)
430 SPRITE$(3)=CHR$(28)+CHR$(34)+CHR$(65)+CHR$(65)+CHR$(65)+CHR$(65)+CHR$(34)+CH
R$ 28)
440 SPRITE$(4)=CHR$(224)+CHR$(240)+CHR$(240)+CHR$(120)+CHR$(20)+CHR$(10)+CHR$(5)
+CHR$(3)
450 SPRITE$(5)=CHR$(8)+CHR$(30)+CHR$(40)+CHR$(28)+CHR$(10)+CHR$(60)+CHR$(8)+CHR$
(0)
460 SPRITE$(6)=CHR$(28)+CHR$(34)+CHR$(32)+CHR$(28)+CHR$(2)+CHR$(34)+CHR$(28)+CHR
$(0)
470 SPRITE$(7)=CHR$(32)+CHR$(32)+CHR$(32)+CHR$(32)+CHR$(32)+CHR$(32)+CHR$(62)+CH
R$(0)
480 SPRITE$(8)=CHR$(65)+CHR$(99)+CHR$(54)+CHR$(28)+CHR$(28)+CHR$(54)+CHR$(99)+CH
R$(65)
490 SPRITE$(9)=CHR$(170)+CHR$(84)+CHR$(170)+CHR$(84)+CHR$(170)+CHR$(84)+CHR$(170
)+CHR$(0)
500 A$=CHR$(255)+CHR$(255)+CHR$(255)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)
510 B$=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(255)+CHR$(255)+CHR$(255)
520 C$=CHR$(254)+CHR$(254)+CHR$(254)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)
530 D$=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(254)+CHR$(254)+CHR$(254)
540 SPRITE$(10)=A$+B$+C$+D$
550 A$=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)
560 B$=CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(0)+CHR$(0)+CHR$(0)
570 C$=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)
580 D$=CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(0)+CHR$(0)+CHR$(0)
590 SPRITE$(11)=A$+B$+C$+D$
600 SPRITE$(12)=CHR$(0)+CHR$(16)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)
610 SPRITE$(13)=CHR$(16)+CHR$(40)+CHR$(16)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(
0)
620 A$=CHR$(0)+CHR$(115)+CHR$(34)+CHR$(34)+CHR$(34)+CHR$(35)+CHR$(0)+CHR$(0)
```

```
630 B$=CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)+CHR$(0)
640 C$=CHR$(0)+CHR$(156)+CHR$(143)+CHR$(156)+CHR$(144)+CHR$(144)+CHR$(0)+CHR$(0)
:D$=B$
650 SPRITE$(14)=A$+B$+C$+D$
660 A$=CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR$(255)+CHR
$(0)
670 C$=CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR$(254)+CHR
$(0)
680 SPRITE$(15)=A$+B$+C$+D$
690 ERASE DM$:GOSUB 3350
700 REM
710 REM *                                *
720 REM *   ACTIVACION  COMANDOS  *
730 REM *                                *
740 REM
750 ON STRIG GOSUB 2100
760 ON KEY GOSUB 2170,2300,2320,2340,2360:S1=1:S2=2
770 STRIG(0)ON:KEY(1)ON
780 'ON STOP GOSUB 1490:STOP ON
790 IF F5>0 AND DR(S)=5 THEN 980
800 K$=INKEY$:D=STICK(0)
810 IFP=3ORP=4THENXS=-10:GOTO 960
820 IFD=1THENY=Y-I
830 IFD=2THENX=X+I:Y=Y-I
840 IFD=3THENX=X+I
850 IFD=4THENX=X+I:Y=Y+I
860 IFD=5THENY=Y+I
870 IFD=6THENX=X-I:Y=Y+I
880 IFD=7THENX=X-I
890 IFD=8THENX=X-I:Y=Y-I
900 IFX<0THENX=0
910 IFX>255THENX=255
920 IFY<0THENY=0
930 IFY>191THENY=191
940 IF F5>0 AND DR(S)>3 THEN 980
950 XS=X-3:YS=Y-2
960 PUT SPRITE 4,(XS,YS),15,12
970 PUT SPRITE 5,(XS,YS),1,13
980 IFK$=CHR$(13)THEN P=1
990 IFK$=CHR$(8)THEN P=2
1000 IFK$=CHR$(18)THEN P=3:S=S+1
1010 IFK$=CHR$(127)THEN P=4:S=S-1
1020 IFK$=CHR$(24)THEN P=5
1030 IFK$=CHR$(9)THEN GOSUB 1700
1040 IFK$=CHR$(11)THEN GUSUB 2470
1050 ON P GOSUB 1140,1260,1420,1430,1560
1060 ON FF GOTO 1060
1070 GOTO 790
1080 YS=-10:RETURN 960
1090 REM
1100 REM *                                *
1110 REM *   SUB. DISE%O FIGURA     *
1120 REM *                                *
1130 REM
1140 IF F5=0 OR S<>R THEN 1190 ELSE XB(R)=X:YB(R)=Y:CO(R)=CP:DR(R)=FD:DR$(R)=CH$
:CD=CP:S=R
```

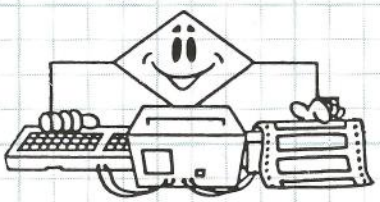
```
1150 IF FD=4 AND FR=1 THEN PRESET(XA(R),YA(R))
1160 GOSUB 1800:R=R+1:CO(R)=CP:DR(R)=FD:CH$=""
1170 IF FD=3 THEN XA(R)=XA(S):YA(R)=YA(S):FR=1 ELSE XA(R)=X:YA(R)=Y:FR=0
1180 IF FD=5 THEN PSET(X,Y):STRIG(0)ON:FR=1
1190 P=0:F5=0:S=R:RETURN
1200 REM
1210 REM *                              *
1220 REM *    SUB.CANCELACION           *
1230 REM *          FIGURA              *
1240 REM *                              *
1250 REM
1260 IF FD=5 THEN X=XA(R):Y=YA(R):PSET(X,Y),CO(S):STRIG(0)ON:FR=1
1270 IF R=S THEN 1350
1280 IF DR(S)=4 THEN FP=1:FR=1
1290 CD=CS:GOSUB 1800
1300 FOR N=S TO R-1
1310 XA(N)=XA(N+1):YA(N)=YA(N+1):XB(N)=XB(N+1):YB(N)=YB(N+1):CO(N)=CO(N+1):DR(N)
=DR(N+1):DR$(N)=DR$(N+1)
1320 NEXT N:R=R-1
1330 IF FP=1 THEN FP=0:GOSUB 2470
1340 IF R=S AND FR=0 THEN PSET(XA(R),YA(R)):FR=1
1350 P=0:F5=0:CH$="":RETURN
1360 REM
1370 REM *                              *
1380 REM *  SUB. PARPADEO  FIGURA       *
1390 REM *  PRECEDENTE/SIGUIENTE        *
1400 REM *                              *
1410 REM
1420 IF S>R-1 THEN S=R-1
1430 IF S<0 THEN S=0
1440 IF R=0 THEN RETURN
1450 IF DR(S)=4 THEN F5=1 ELSE F5=0
1460 CD=CS:GOSUB 1800
1470 FOR K=0 TO 50:NEXT K:IF FD=5 THEN X=XA(R):Y=YA(R):CH$=""
1480 CD=CO(S):GOSUB 1800
1490 RETURN
1500 REM
1510 REM *                              *
1520 REM *       SUB.PARPADEO           *
1530 REM *     FIGURA  ACTUAL           *
1540 REM *                              *
1550 REM
1560 IF R=100 THEN 2530
1570 IF F5=0 THEN F5=1
1580 S=R:CO(R)=CP:DR(R)=FD:DR$(R)=CH$:XB(R)=X:YB(R)=Y
1590 IF F5=1 AND FD=5 THEN GOSUB 1710:STRIG(0)OFF
1600 CD=CP:GOSUB 1800
1610 CD=CS:GOSUB 1800
1620 IFFD<>4THENPSET(XA(R),YA(R)),CP
1630 S=R:F5=2:RETURN
1640 REM
1650 REM *                              *
1660 REM *  SUB.FIJ.NUEVO ORIGEN        *
1670 REM *   FIGURA  A DISE%AR          *
1680 REM *                              *
```

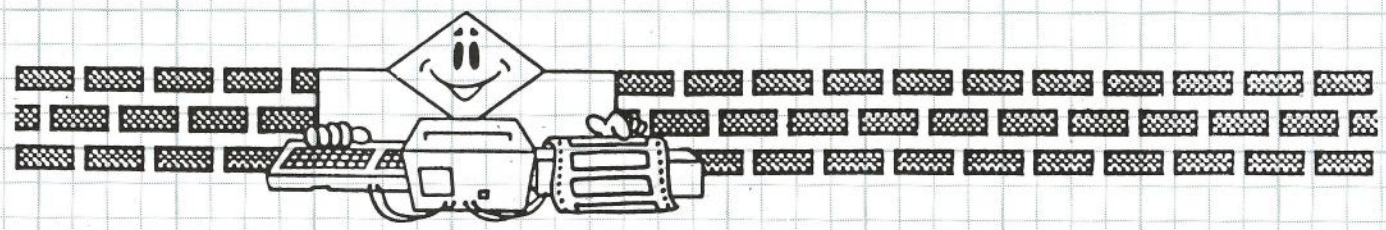
```
1690 REM
1700 IF P>0 OR R=100 THEN RETURN
1710 IF FR=1THEN PRESET(XA(R),YA(R))
1720 PSET(X,Y),CP:XA(R)=X:YA(R)=Y
1730 FR=1:S=R:RETURN
1740 REM
1750 REM *                          *
1760 REM *  SUB. SELECCION FIGURA   *
1770 REM *        A  DISE%AR        *
1780 REM *                          *
1790 REM
1800 ON DR(S) GOTO 1810,1820,1830,1850,1910
1810 LINE(XA(S),YA(S))-(XB(S),YB(S)),CD:RETURN
1820 LINE(XA(S),YA(S))-(XB(S),YB(S)),CD,B:RETURN
1830 RX=ABS(XA(S)-XB(S)):RY=ABS(YA(S)-YB(S))
1840 CIRCLE(XA(S),YA(S)),SQR(RX^2+RY^2),CD,,,1.4*(RY+1E-05)/(RX+1E-05):RETURN
1850 PUT SPRITE 4,(XB(S),YB(S)),CD,4
1860 PUT SPRITE 5,(XB(S),YB(S)),CD,4
1870 IF F5>0 AND P=1 THEN 1890
1880 FORK=0TO20:NEXTK:RETURN
1890 PRESET(XB(S),YB(S))
1900 PAINT(XB(S),YB(S)),CD:RETURN
1910 IF S<R THEN 1990
1920 PUTSPRITE4,(XB(S),YB(S)-1),CD,9
1930 PUTSPRITE5,(XB(S),YB(S)-1),CD,9
1940 J$=INKEY$:IF J$="" THEN 1990
1950 K$=J$:IF LEN(CH$)=255 THEN 1990
1960 IF ASC(J$)=1 THEN J$=INKEY$:J$=CHR$(1)+J$:GOTO 1980
1970 IF ASC(J$)<32 OR ASC(J$)=127 THEN 1990
1980 GOSUB 2010:CH$=CH$+J$
1990 COLOR CD:PRESET(XA(S),YA(S))
2000 PRINT#1,DR$(S):RETURN
2010 IF Y>191 THEN RETURN 1990
2020 IF X<248 THENX=X+8ELSEX=0:Y=Y+8
2030 RETURN
2040 REM
2050 REM *                        *
2060 REM *     SUB. MOVIMENTO     *
2070 REM *    PLUMA  1/8 PUNTO    *
2080 REM *                        *
2090 REM
2100 SWAP H,I:RETURN
2110 REM
2120 REM *                        *
2130 REM *     SUB. SELECCION     *
2140 REM *     OPCIONES MENU      *
2150 REM *                        *
2160 REM
2170 SWAP S1,S2:ON S1 GOTO 2180,2260
2180 FOR N=2 TO 5:KEY(N)OFF:NEXT N
2190 YC=-20:FF=0:GOSUB 2370
2200 IF P=5 AND FD=5 AND CH$="" THEN X=XA(R):Y=YA(R):F5=1
2210 IF FD=6 THEN 2580
2220 IF FD=7 THEN 3090
```

```
2230 IF FD=8 THEN 3330
2240 IF SS=1 THEN SS=0:GOTO 2470
2250 COLOR CP,CS,CB:RETURN
2260 FOR N=2 TO 5:KEY(N)ON:NEXT N
2270 IF FD<>5 THEN CH$=""
2280 YC=4:FF=1:GOSUB 2370
2290 STRIG(0)ON:GOTO 1080
2300 CB=CB+1:IF CB>15 THEN CB=0
2310 GOTO 2370
2320 CS=CS+1:IF CS>15 THEN CS=0
2330 SS=1:GOTO 2370
2340 CP=CP+1:IF CP>15 THEN CP=0
2350 GOTO 2370
2360 FD=FD+1:IF FD>8 THEN FD=1
2370 PUT SPRITE 3,(XC,YC),CB,10
2380 PUT SPRITE 2,(XC,YC),CS,11
2390 PUT SPRITE 1,(XC+3,YC+4),CP,FD
2400 RETURN
2410 REM
2420 REM *                          *
2430 REM *
2440 REM *
2450 REM *                          *
2460 REM
2470 COLOR CP,CS,CB:SCREEN 2
2480 K$="":IF R<1 THEN 2510
2490 FOR S=0 TO R-1
2500 CD=CO(S):ON DR(S) GOSUB 1810,1820,1830,1890,1990:NEXT S:P=0:F5=0
2510 PSET(XA(R),YA(R)),CO(R):RETURN
2520 REM
2530 REM *                          *
2540 REM
2550 REM
2560 REM *                          *
2570 REM
2580 IF R=0 THEN RETURN
2590 FX=66:GOSUB 3220
2600 PRINT#1,"saving data draw"
2610 ON ERROR GOTO 3260:OPEN"CAS:" FOR OUTPUT AS#2
2620 PRINT#2,"data";",";R;CS;CB
2630 FOR S=0 TO R
2640 PRINT#2,XA(S);YA(S);XB(S);YB(S);CO(S);DR(S);",";DR$(S);",";
2650 NEXT S:CLOSE#2
2660 REM
2670 REM *                          *
2680 REM *
2690 REM *
2700 REM *                          *
2710 REM
2720 NF=NF+1:IF NF>99 THEN NF=1
2730 NF$="CAS:DRAW"+MID$(STR$(NF),2)
2740 FX=66:IF NF>9 THEN FX=62
2750 GOSUP 3230
2760 PRINT#1,"saving ";NF$:COLOR 15
2770 NR=0:OPEN NF$ FOR OUTPUT AS#2
```

```
2780 NR=NR+10:PRINT#2,NR;"REM ******************************"
2790 NR=NR+10:PRINT#2,NR;"REM *                            *"
2800 NR=NR+10:PRINT#2,NR;"REM *      MSX DRAW EDITOR       *"
2810 NR=NR+10:PRINT#2,NR;"REM *                            *"
2820 NR=NR+10:PRINT#2,NR;"REM ******************************"
2830 NR=NR+10:PRINT#2,NR;"REM"
2840 NR=NR+10:PRINT#2,NR;"REM .. PULSA  'RUN' para ver ..."
2850 NR=NR+10:PRINT#2,NR;"REM .......  eL  DISE%O........."
2860 NR=NR+10:PRINT#2,NR;"REM"
2870 NR=NR+10:PRINT#2,NR;"COLOR,";MID$(STR$(CS),2);",";MID$(STR$(CB),2);":SCREEN
 2"
2880 NR=NR+10:PRINT#2,NR;"OPEN";CHR$(34);"GRP:";CHR$(34);"AS#1"
2890 FOR S=0 TO R-1:NR=NR+10
2900 A$=MID$(STR$(XA(S)),2)
2910 B$=MID$(STR$(YA(S)),2)
2920 C$=MID$(STR$(XB(S)),2)
2930 D$=MID$(STR$(YB(S)),2)
2940 E$=MID$(STR$(CO(S)),2)
2950 ON DR(S) GOSUB 2980,2990,3000,3020,3030:NEXT S
2960 NR= NR+10:PRINT#2,NR;"GOTO";NR
2970 CLOSE#2:FD=1:GOTO 2470
2980 PRINT#2,NR;"LINE(";A$;",";B$;")-(";C$;",";D$;"),";E$:RETURN
2990 PRINT#2,NR;"LINE(";A$;",";B$;")-(";C$;",";D$;"),";E$;",B":RETURN
3000 RX=ABS(XA(S)-XB(S)):RY=ABS(YA(S)-YB(S)):RC=SQR(RX^2+RY^2):RF!=1.4*(RY+1E-05
)/(RX+1E-05)
3010 PRINT#2,NR;"CIRCLE(";A$;",";B$;"),";MID$(STR$(RC),2);",";E$;",,,";MID$(STR$
(RF!),2):RETURN
3020 PRINT#2,NR;"PRESET(";C$;",";D$;")";":PAINT(";C$;",";D$;"),";E$:RETURN
3030 PRINT#2,NR;"COLOR";E$;":PRESET(";A$;",";B$;"):PRINT#1,";CHR$(34);DR$(S);CHR
$(34):RETURN
3040 REM
3050 REM *                          *
3060 REM * SUB.INPUT# DATOS DISE%O *
3070 REM *                          *
3080 REM
3090 FX=66:GOSUB 3220
3100 PRINT#1,"input# data draw"
3110 S=0:ON ERROR GOTO 3250:OPEN"CAS:" FOR INPUT AS#2
3120 INPUT#2,DD$,R,CS,CB
3130 FOR S=0 TO R
3140 INPUT#2,XA(S),YA(S),XB(S),YB(S),CO(S),DR(S),DR$(S):NEXT S:IF DR(R-1)<3 OR D
R(R-1)=4 THEN FR=0 ELSE FR=1
3150 CLOSE#2:FD=1:GOTO 2470
3160 REM
3170 REM *                          *
3180 REM *    SUB.GRAPH. I/O  Y      *
3190 REM * CONTROL DE INTERRUPCIONES *
3200 REM *                          *
3210 REM
3220 LINE(56,181)-(200,191),1,B
3230 LINE(56,182)-(200,190),14,BF
3240 PSET(FX,183),14:COLOR 1:RETURN
3250 R=S
3260 RESUME 2970
3270 REM
```

```
3280 REM *                          *
3290 REM *    SUB.CANCELACION       *
3300 REM *    TOTAL DEL DISE%O      *
3310 REM *                          *
3320 REM
3330 ERASE XA,YA,XB,YB,CO,DR,DR$:P=0
3340 R=0:S=0:COLOR CP,CS,CB:SCREEN 2
3350 DIM XA(100),YA(100),XB(100),YB(100),CO(100),DR(100),DR$(100)
3360 H=1:I=8:FD=1:XC=120
3370 X=128:Y=96:XA(R)=X:YA(R)=Y
3380 CO(R)=CP:FR=1:PSET(X,Y):RETURN
3390 REM
3400 REM *                          *
3410 REM * SUB. ILUSTRACION  MENU   *
3420 REM *                          *
3430 REM
3440 DATA <F1>,<F2>,<F3>,<F4>,<F5>,BD3R6,D5R6U5L5,BD2D2F2R2E2U2H2L2G1,R2F1L3D1R3
F4D1L1H4L1,BD5BR1R3E1H1L2H1E1R3BU1BL2D6,BD5BR1F1r2E1U1H1L2H1U1E1R2F1,BR1D6R4,BD1
F5R1H5BR4G5R1E5,<CUR>,<SPC>,<TAB>,<SEL>,<DEL>,<INS>,<    >,<RET>,<HOM>
3450 DATA activa menu/programa.....,cambia color borde......,cambia color fondo.
....,cambia color 1' plano...,"selecciona opciones.....",=linea,=rectangulo,=c
irculo-elipse,=paint,=caracteres,=salva a cinta,=carga de cinta,=cancelacion tot
al
3460 DATA mueve la pluma.........,mov.pluma 1/8 punto......,fiia origen de fig
ura,parpadeo figura actual..,parpadeo fig.precedente..,parpadeo fig.siguiente...
,cancela fig. parpadeante,dise$a  fig.parpadeante,continua el dise$o entero
3470 REM
3480 REM *                          *
3490 REM *      SUB.  MENSAJE       *
3500 REM *   SATURACION  MEMORIA    *
3510 REM *                          *
3520 REM
3530 YE=10:S3=14:S4=1:FOR N=1 TO 8
3540 SWAP S3,S4:GOSUB 3570:NEXT N
3550 YE=-20:GOSUB 3570
3560 P=0:F5=0:RETURN
3570 PUT SPRITE 15,(120,YE),14
3580 PUT SPRITE 14,(120,YE),S3
3590 IFS3=1THENPLAY"S1M8000L32O4N40"
3600 FORK=0TO50:NEXTK:RETURN
```



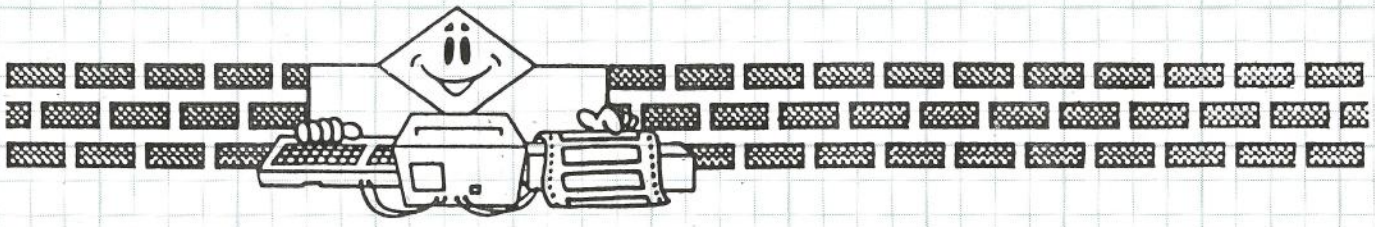


CONEJO

```
5 REM
10 Z=0
20 COLOR 5,1,1:SCREEN 2,1
30 KEY OFF:
40 OPEN"grp:" FOR OUTPUT AS#1
50 LINE(20,0)-(240,4),15,BF
60 LINE (20,40)-(24,191),15,BF
70 LINE (20,191)-(240,185),15,BF
80 LINE(236,148)-(240,0),15,BF
90 LINE (50,0)-(53,60),15,BF
100 LINE (50,60)-(75,63),15,BF
110 LINE (85,30)-(105,33),15,BF
120 LINE(105,30)-(108,90),15,BF
130 LINE (135,0)-(138,60),15,BF
140 LINE (105,90)-(185,93),15,BF
150 LINE (182,60)-(185,60),15,BF
160 LINE(185,60)-(165,63),15,BF
170 LINE (165,60)-(168,35),15,BF
180 LINE(165,32)-(200,35),15,BF
190 LINE (213,62)-(216,18),15,BF
200 LINE(216,145)-(240,148),15,BF
210 LINE (216,145)-(150,148),15,BF
220 LINE (153,145)-(150,125),15,BF
230 LINE (182,90)-(185,120),15,BF
240 LINE(150,128)-(120,125),15,BF
250 LINE(123,125)-(120,148),15,BF
260 LINE(20,155)-(90,158),15,BF
270 LINE (120,125)-(90,128),15,BF
280 LINE (50,155)-(53,93),15,BF
290 LINE (50,93)-(180,90),15,BF
300 RESTORE 970
310 FOR I=1 TO 8:READ D$
320 S$=S$+CHR$(VAL ("&b"+D$)):NEXT I
330 FOR X=1 TO 6
340 SPRITE$(X)=S$:NEXT X
350 RESTORE 1050
360 FOR I=1 TO 8:READ E$
370 B$=B$+CHR$(VAL("&b"+E$)):NEXTI
380 SPRITE $(7)=B$
```

```
390 RESTORE 1130
400 FOR I=1 TO 8:READ F$
410 A$=A$+CHR$(VAL("&b"+F$)):NEXT I
420 FOR X=8 TO 10
430 SPRITE $(X)=A$:NEXT X
440 RESTORE 1210
450 FOR I=1 TO 8:READ G$
460 C$=C$+CHR$(VAL("&b"+G$)):NEXT I
470 FOR X=1 TO 3
480 SPRITE$(X)=C$:NEXT X
490 X%=215:K%=160
500 S%=95:M%=4:Q%=140:Z%=3
510 E%=10:R%=4:T%=10:Y%=5
520 U%=110:P%=2:L%=200:V%=1
530 SPRITE ON
540 ON SPRITE GOSUB 890
550 T=STICK(0)
560 IF T =3 THEN X%=X%+5.3:IF POINT (X%+8,K%+8)=15 THEN GOSUB 1290
570 IF X%>225 THEN X%=225
580 IF T=7 THEN X%=X%-5:IF POINT (X%+3,K%+10)=15 THEN GOSUB 1300
590 IF X%<10 THEN X%=215:Z=Z+10:K%=160:M%=M%+1:Z%=Z%+1:R%=R%+1:Y%=Y%+1:V%=V%+1:P
%=P%+1
600 IF Z=50 OR Z=150 OR Z=250 THEN GOSUB 1330
610 IF T=1 THEN K%=K%-5:IF POINT (X%+5,K%)=15 THEN GOSUB 1310
620 IF T=5 THEN K%=K%+5.5:IF POINT (X%+5,K%+15)=15 THEN GOSUB 1320
630 PUT SPRITE 0,(S%,165),2,1
640 S%=S%+M%
650 IF S%<25 OR S%>105 THEN M%=-M%
660 PUT SPRITE 1,(129,Q%),13,2
670 Q%=Q%+Z%
680 IF Q%<130 OR Q%>165 THEN Z%=-Z%
690 PUT SPRITE 2,(218,E%),4,3
700 E%=E%+R%
710 IF E%<10 OR E%>125 THEN R%=-R%
720 PUT SPRITE 3,(30,T%),5,4
730 T%=T%+Y%
740 IF T%<10 OR T%>135 THEN Y%=-Y%
750 PUT SPRITE 4,(U%,69),7,5
760 U%=U%+P%
770 IF U%<110 OR U%>165 THEN P%=-P%
780 PUT SPRITE 5,(L%,40),10,6
790 L%=L%+V%
800 IF L%<170 OR L%>200 THEN V%=-V%
810 PUT SPRITE 6,(X%,K%),8,7
820 PUT SPRITE 7, (75,115),11,8:FOR T=1 TO 5:NEXT T
830 PUT SPRITE 7,(75,115),11,11
840 PUT SPRITE 8,(200,25),1,9:FOR T=1 TO 5:NEXT T
850 PUT SPRITE 8,(0,25),11,12
860 PUT SPRITE 9,(70,25),11,10:FOR T=1 TO 5:NEXT T
870 PUT SPRITE 9,(70,25),1,13
880 GOTO 550
890 SCREEN 0
900 LOCATE 7,10:PRINT"TE HAN COJIDO"
910 LOCATE 8,15:PRINT"PUNTOS:";Z
```

```
920 PLAY "14g18dr64d14edr5f#g"
930 LOCATE 3,22:PRINT "OPRA PARTIDA S/N"
940 A$=INKEY$:IF A$="s"OR A$="S"THEN RUN
950 IF A$="n" OR A$="N"THEN CLS:PRINT "ADIOS":END
960 GOTO 940
970 DATA 00100100
980 DATA 00111100
990 DATA 01111110
1000 DATA 01111110
1010 DATA 01100110
1020 DATA 00111100
1030 DATA 00011000
1040 DATA 00011000
1050 DATA 00101000
1060 DATA 00101000
1070 DATA 00101000
1080 DATA 00111000
1090 DATA 01010100
1100 DATA 01111100
1110 DATA 01101100
1120 DATA 00111000
1130 DATA 10010010
1140 DATA 01010100
1150 DATA 00111000
1160 DATA 11101110
1170 DATA 00111000
1180 DATA 01010100
1190 DATA 10010010
1200 DATA 00000000
1210 DATA
1220 DATA
1230 DATA
1240 DATA
1250 DATA
1260 DATA
1270 DATA
1280 DATA
1290 FOR D=1 TO 200:NEXT :X%=X%-10:RETURN
1300 FOR D=1 TO 200:NEXT D:X%=X%+10:RETURN
1310 FOR D=1 TO 200:NEXT D:K%=K%+10:RETURN
1320 FOR D=1 TO 200:NEXT D:K%=K%-10:RETURN
1330 SCREEN 0
1340 PLAY "120cr64cr64cr6414far8"
1350 PLAY "120cr64cr64cr6414far8"
1360 PLAY "16fr64116fer64edr64dc2"
1370 FOR X=1 TO 10
1380 Z=Z+5:LOCATE 5,9:PRINT"50 bonus points! puntos :";Z
1390 FOR F=1 TO 50:NEXT F
1400 LOCATE 5,9:PRIN SPC(27)
1410 FOR F=1 TO 48:NEXT F
1420 NEXT X
1430 COLOR 15,1,1:SCREEN 2,1:KEY OFF
1184 LET 50
1450 END
```



HOJA ELECTRONICA

```
10 REM TABLERO  ELECTRONICO
20 WIDTH40:KEYOFF:CLEAR10000
30 ONERRORGOTO2790
40 OF%=3:SC%=0:GA%=17-OF%:NL%=0:PG%=1:ML%=50
50 DIMYA$(100):FOR K%=1 TO 26:YA$(K%)=CHR$(K%+64):NEXT:FOR K%=1 TO 26:YA$(K%+26)
="A"+CHR$(K%+64):NEXT:FOR K%=1 TO 26:YA$(K%+52)="B"+CHR$(K%+64):NEXT:FOR K%=1 TO
 21:YA$(K%+78)="C"+CHR$(K%+64):NEXT
60 GOTO 2860
70 RUN
80 CLS:LOCATE0,18:LINE INPUT"Numero de filas:";A$:MR%=VAL(A$)
90 IFMR%<14THENMR%=14
100 LOCATE0,18:LINEINPUT"Numero de columnas:";A$:MC%=VAL(A$)
110 IF MC%<4THENMC%=4
120 DIMAR$(MC%,MR%),AF$(MC%,MR%),TP%(MC%,MR%)
130 XS%=1:YS%=1:XC%=1:YC%=1
140 GOSUB 1890
150 LOCATE1,20:PRINT"funcion?";SPC(30):PRINTSPC(40)
160 A$=INKEY$:IF A$=""THEN160
170 LOCATE1,18:PRINTSPC(39)
180 CU%=ASC(A$):IF CU%>96 THEN CU%=CU%-32
190 XD%=XS%+XC%-1:YD%=YS%+YC%-1
200 IFCU%>=28ANDCU%<=31THENGOSUB310:GOTO150
210 IFCU%=73THENGOSUB470:GOTO150
220 IFCU%=67THENGOSUB790:GOTO130
230 IFCU%=82THENGOSUB950:GOTO130
240 IFCU%=68THENGOSUB1060:GOTO150
250 IFCU%=84THENGOSUB1070:GOTO150
260 IFCU%=76THEN2940
270 IFCU%=71THENGOTO1300
280 IF CU%=83THENGOSUB1380:GOTO130
290 IF CU%=70THENGOTO1860
300 GOTO160
310 IFCU%<>28THEN350
320 IFXC%=4ANDXS%<MC%-3THENXS%=XS%+1:GOSUB1890:RETURNELSEIFXC%=4THENRETURN
330 IFXC%=1THENLOCATEXO%,YO%:PRINT" V"ELSELOCATEXO%,YO%:PRINTSPC(1)
340 XC%=XC%+1:GOSUB2060:RETURN
350 IFCU%<>29THEN380
```

```
360 IFXC%=1ANDXS%<>1THENXS%=XS%-1:GOSUB1890:RETURNELSEIFXC%=1THENRETURN
370 LOCATEXO%+9,YO%:PRINTSPC(1):XC%=XC%-1:GOSUB2060:RETURN
380 IFCU%<>31THEN430
390 IFYC%=14ANDYS%<MR%-13THENYS%=YS%+1:GOSUB1890:RETURNELSEIFYC%=14THENRETURN
400 LOCATEXO%,YO%:IFXC%=1THENPRINT" V"ELSEPRINTSPC(1
410 LOCATEXO%+9,YO%:PRINTSPC(1)
420 YC%=YC%+1:GOSUB2060:RETURN
430 IFYC%=1ANDYS%>1THENYS%=YS%-1:GOSUB1890:RETURNELSEIFYC%=1THENRETURN
440 LOCATEXO%,YO%:IFXC%=1THENPRINT" V"ELSEPRINTSPC(1)
450 LOCATEXO%+9,YO%:PRINTSPC(1)
460 YC%=YC%-1:GOSUB2060:RETURN
470 LOCATE1,20:PRINT"Valores/Texto/Formulas/Anular"
480 A$=INKEY$:IFA$=""THEN480
490 CU%=ASC(A$):IFCU%>96THENCU%=CU%-32
500 IF CU%<>86 THEN 590
510 LOCATE1,20:PRINT"valor ";SPC(33):LOCATE1,21:LINE INPUT A$
520 L1%=LEN(A$):IFL1%>8THENERROR250
530 FORK%=1TOL1%
540 CU%=ASC(MID$(A$,K%,1))
550 IF(CU%<48ORCU%>57)ANDCU%<>46THENRETURN
560 NEXTK%
570 AR$(XD%,YD%)=A$
580 GOSUB750:TP%(XD%,YD%)=1:AF$(XD%,YD%)="VAL":RETURN
590 IFCU%<>84THEN630
600 LOCATE1,20:PRINT"texto";SPC(34):AF$(XD%,YD%)="":LOCATE1,21:LINEINPUTA$
610 IFLEN(A$)>9THENAR$(XD%,YD%)=LEFT$(A$,9)ELSEAR$(XD%,YD%)=A$
620 LOCATEXO%+1,YO%:PRINTAR$(XD%,YD%):TP%(XD%,YD%)=2:AF$(XD%,YD%)="TEXTO":RETURN
630 IFCU%<>70THEN740
640 LOCATE1,20:PRINT"formula";SPC(32):LOCATE1,21:LINE INPUTAF$(XD%,YD%)
650 L1%=LEN(AF$(XD%,YD%)):PA%=0:PC%=0
660 FORK%=1TOL1%
670 A$=MID$(AF$(XD%,YD%),K%,1):CU%=ASC(A$)
680 IFCU%>96ANDCU%<123THENCU%=CU%-32:MID$(AF$(XD%,YD%),K%,1)=CHR$(CU%)ELSEIFCU%=
40THENPA%=PA%+1ELSEIFCU%=41THENPC%=PC%+1
690 NEXTK%
700 IFPA%<>PC%THENLOCATE1,20:PRINT"formula equivocada":RETURN
710 GOSUB2080:A$=AR$(XD%,YD%)
720 GOSUB760:TP%(XD%,YD%)=3:RETURN
730 IFCU%<>65THENRETURN
740 LOCATEXO%+1,YO%:PRINTSPC(9):TP%(XD%,YD%)=0:AR$(XD%,YD%)="":RETURN
750 LOCATEXO%+1,YO%:PRINTSPC(8-LEN(AR$(XD%,YD%))):AR$(XD%,YD%):RETURN
760 T1=VAL(A$):B$=A$:A$=STR$(INT(T1)):N%=LEN(A$):GOSUB2700:A$=AR$(XD%,YD%)
770 IFLEN(A$)>8THENERROR252
780 LOCATEXO%+1,YO%:PRINTSPC(8-LEN(A$)):A$:AR$(XD%,YD%)=B$:RETURN
790 LOCATE1,20:PRINT"Filas/Columnas"
800 A$=INKEY$:IFA$=""THEN800
810 CV%=ASC(A$):IFCV%>96THENCV%=CV%-32
820 IFCV%=67THEN830ELSEIFCV%=82THEN890ELSEGOTO800
830 CLS:FORK1%=1TOMC%
840 FORJ1%=1TOMR%
850 IFTP%(K1%,J1%)=3THENXD%=K1%:YD%=J1%:GOSUB2080
860 IFTP%(K1%,J1%)=4THENXD%=K1%:YD%=J1%:GOSUB1130
870 NEXTJ1%:NEXTK1%
880 GOTO940
890 CLS:FORJ1%=1TOMR%
```

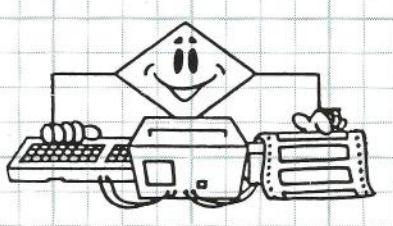
```
900 FORK1%=1TOMC%
910 IFTP%(K1%,J1%)=3THENXD%=K1%:YD%=J1%:GOSUB2080
920 IFTP%(K1%,J1%)=4THENXD%=K1%:YD%=J1%:GOSUB1130
930 NEXTK1%:NEXTJ1%
940 RETURN
950 CLS:LOCATE0,8:PRINT"prepara el cassette o el disco  para salvar los datos"
960 LOCATE0,12:PRINT"nombre del fichero a salvar":LINEINPUTA$
970 OPENA$FOROUTPUTAS#1
980 PRINT#1,MC%,MR%
990 FORK%=1TOMC%
1000 FORJ%=1TOMR%
1010 PRINT#1,AR$(K%,J%);",";AF$(K%,J%)
1020 PRINT#1,TP%(K%,J%)
1030 NEXTJ%:NEXTK%
1040 CLOSE#1
1050 RETURN
1060 LOCATE1,18:PRINTAF$(XD%,YD%):RETURN
1070 GOSUB1090:A$=AR$(XD%,YD%)
1080 GOSUB760:RETURN
1090 LOCATE1,20:PRINT"Filas/Columnas"
1100 A$=INKEY$:IFA$=""THEN1100
1110 CV%=ASC(A$):VL=0:IFCV%>96THENCV%=CV%-32
1120 IFCV%=67THEN1140ELSEIFCV%=82THEN1220ELSEGOTO1100
1130 VL=0:IFAF$(XD%,YD%)="TLC"THEN1140ELSE1220
1140 K%=TP%(XD%,YD%-1):IFK%=1ORK%=3THENVL=VL+VAL(AR$(XD%,YD%-1))
1150 ON ERROR GOTO 3070
1160 FORJ%=YD%-2TO1STEP-1
1170 K%=TP%(XD%,J%)
1180 IFK%=1ORK%=3THENVL=VL+VAL(AR$(XD%,J%))ELSEGOTO1200
1190 NEXTJ%
1200 TP%(XD%,YD%)=4:AF$(XD%,YD%)="TLC":A$=STR$(VL):N%=LEN(A$)
1210 GOSUB2700:RETURN
1220 J%=TP%(XD%-1,YD%):IFJ%=1ORJ%=3THENVL=VL+VAL(AR$(XD%-1,YD%))
1230 ON ERROR GOTO3070
1240 FORK%=XD%-2TO1STEP-1
1250 J%=TP%(K%,YD%)
1260 IFJ%=1ORJ%=3THENVL=VL+VAL(AR$(K%,YD%))ELSEGOTO1280
1270 NEXTK%
1280 TP%(XD%,YD%)=4:AF$(XD%,YD%)="TLR":A$=STR$(VL):N%=LEN(A$)
1290 GOSUB2700:RETURN
1300 LOCATE1,20:PRINT"posicion?"
1310 LOCATE1,21:LINEINPUTA$
1320 GOSUB1730
1330 IFFL%=1THEN130
1340 IFYS%>MR%-13THENYS%=MR%-13
1350 XS%=VAL(A2$)
1360 IFXS%>MC%-3THENXS%=MC%-3
1370 XC%=1:YC%=1:GOTO140
1380 CLS:LOCATE0,8:PRINT"1-IMPRESORA 80 COLUMNAS":PRINT:PRINT"2-IMPRESORA 40 COL
UMNAS"
1390 A$=INKEY$:IFA$=""THEN 1390
1400 IFA$="1"THENN5%=8ELSEIFA$="2"THENN5%=4ELSEGOTO1390
1410 CLS:LOCATE0,10:PRINT"A IMPRIMIR TODO O UN SOLO SECTOR? (T/S)"
1420 A$=INKEY$:IFA$=""THEN1420
1430 IFA$="T"ORA$="t"THENNR%=MR%:NC%=MC%:XS%=1:YS%=1:GOTO1570
```

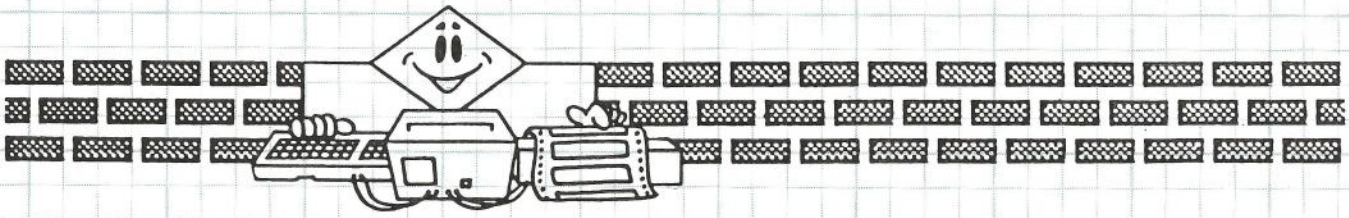
```
1440 CLS:LOCATE0,18:PRINT"NUMERO COLUMNAs":PRINT
1450 INPUTNC%
1460 IFNC%>MC%THENNC%=MC%
1470 CLS:LOCATE0,18:PRINT"NUMERO FILAs"
1480 INPUTNR%
1490 IFNR%>MR%THENNR%=MR%
1500 CLS:LOCATE0,18:PRINT"POSICION DE LA 1a CASILLA ARRIBA A LA   IZQUIERDA":PRI
NT
1510 INPUTA$
1520 GOSUB1730
1530 IFFL%=1THEN1500
1540 IFYS%>MR%THENLOCATE0,18:PRINT"FILA EQUIVOCADA":GOTO 1500
1550 XS%=VAL(A2$)
1560 IFXS%>MC%THENLOCATE0,18:PRINT"COLUMNA EQUIVOCADA":GOTO1500
1570 NG%=NC%:N1%=XS%
1580 IFNG%<=N5%THENNS%=NG%:NG%=0ELSENS%=N5%:NG%=NG%-N5%
1590 FORJ%=YS%TOYS%+NR%-1
1600 T%=0
1610 FORK%=N1%TON1%+NS%-1
1620 T1%=9*T%:T%=T%+1
1630 A$=AR$(K%,J%)
1640 IFA$=""THEN1670
1650 KZ%=TP%(K%,J%)
1660 IFKZ%=1THENLPRINTTAB(T1%);SPC(8-LEN(A$));A$;ELSEIFKZ%=3ORKZ%=4THENT1=INT(VA
L(A$)):LPRINTTAB(T1%);:LPRINTUSING"########";T1;ELSELPRINTTAB(T1%);A$;
1670 NEXTK%
1680 LPRINT
1690 NEXTJ%
1700 LPRINT
1710 IFNG%<>0THENN1%=N1%+NS%:GOTO1580
1720 RETURN
1730 A1$="":A2$="":FL%=0
1740 FORK%=1TOLEN(A$)
1750 CU%=ASC(MID$(A$,K%,1))
1760 IFCU%>96ANDCU%<123THENCU%=CU%-32:MID$(A$,K%,1)=CHR$(CU%)
1770 NEXT
1780 FORK%=1TOLEN(A$)
1790 B$=MID$(A$,K%,1):CU%=ASC(B$)
1800 IFCU%>64ANDCU%<91ORCU%>96ANDCU%<123THENA1$=A1$+B$ELSEIFCU%>47ANDCU%<58THENA
2$=A2$+B$ELSELOCATE1,21:PRINT"CASILLA EQUIVOCADA":FORJ%=1TO10000:NEXT:FL%=1:RETU
RN
1810 NEXTK%
1820 FORK%=1TOMR%
1830 IFA1$=LEFT$(YA$(K%),LEN(A1$))THENYS%=K%:GOTO1850
1840 NEXTK%
1850 RETURN
1860 LOCATE1,20:PRINT"seguro de querer terminar? s/n"
1870 A$=INKEY$:IFA$=""THEN1870
1880 IFA$="S"ORA$="s"THENENDELSEIFA$="N"ORA$="n"THEN150ELSEGOTO1870
1890 CLS:LOCATE1,2:PRINTTAB(6);XS%;TAB(15);XS%+1;TAB(24);XS%+2;TAB(33);XS%+3
1900 LOCATE1,3:PRINT" W W R W W W W W W W W R W W W W W W W W R W W W W W W W W
R W W W W W W W W"
1910 FORK%=0TO13:PRINTTAB(1);YA$(YS%+K%);TAB(3);" V":NEXT
1920 FORI%=0TO3
1930 FORJ%=0TO13
```

```
1940 XD%=XS%+I%:YD%=YS%+J%:KZ%=TP%(XD%,YD%)
1950 IFKZ%=0THEN2010
1960 LOCATE4+I%*9,J%+4
1970 A$=AR$(XD%,YD%)
1980 IFKZ%=1THENPRINTSPC(8-LEN(A$)):A$:GOTO2010
1990 IFKZ%=2THENPRINTA$:GOTO2010
2000 T1=VAL(A$):A$=STR$(INT(T1)):B$=A$:N%=LEN(A$):GOSUB2700:PRINTSPC(8-LEN(AR$(X
D%,YD%)));AR$(XD%,YD%):AR$(XD%,YD%)=B$
2010 NEXTJ%
2020 NEXTI%
2030 GOSUB 2060
2040 RETURN
2050 REM CURSOR
2060 X0%=3+(XC%-1)*9:Y0%=YC%+3:LOCATEX0%,Y0%:PRINT">":LOCATEX0%+9,Y0%:PRINT"<"
2070 RETURN
2080 ML%=0:DV%=0:EX%=0:PP%=0
2090 F1$=AF$(XD%,YD%)
2100 L1%=LEN(F1$)
2110 FORK%=1TOL1%
2120 A$=MID$(F1$,K%,1):CU%=ASC(A$)
2130 IFCU%=40THENPP%=PP%+1ELSEIFCU%=42THENML%=ML%+1ELSEIFCU%=47THENDV%=DV%+1ELSE
IFCU%=94THENEX%=EX%+1
2140 NEXTK%
2150 IN%=INSTR(F1$,"INT"):IFIN%=0THEN2210ELSEGOSUB2750
2160 IFFL%=0THEN2180
2170 B$=LEFT$(F1$,IN%-1)+A$+RIGHT$(F1$,LA%-P2%):F1$=B$:GOTO2150
2180 F3%=P1%:P1%=INSTR(F3%+1,F1$,"("):P2%=INSTR(F3%+1,F1$,")")
2190 IFP1%=0ORP2%<P1%THENF2$=MID$(F1$,F3%+1,P2%-F3%-1):GOSUB2440ELSEGOTO2180
2200 F1$=A$:RETURN
2210 IFPP%>0THEN2240
2220 F2$=F1$:GOSUB2440
2230 RETURN
2240 L1%=LEN(F1$)
2250 FORK%=1TOL1%
2260 A$=MID$(F1$,K%,1):CU%=ASC(A$)
2270 IFCU%=40THENF3%=K%ELSEIFCU%=41THENF4%=K%:PP%=PP%-1:GOTO2290
2280 NEXTK%
2290 L2%=F4%-F3%-1:F2$=MID$(F1$,F3%+1,L2%)
2300 M1%=ML%:D1%=DV%:E1%=EX%:ML%=0:DV%=0:EX%=0
2310 FORK%=1TOL2%
2320 A$=MID$(F2$,K%,1)
2330 CU%=ASC(A$)
2340 IFCU%=42THENML%=ML%+1ELSEIFCU%=47THENDV%=DV%+1ELSEIFCU%=94THENEX%=EX%+1
2350 NEXTK%
2360 M1%=M1%-ML%:D1%=D1%-DV%:E1%=E1%-EX%
2370 GOSUB2440
2380 ML%=ML%+M1%:DV%=DV%+D1%:EX%=EX%+E1%
2390 F2$="":F2$=F2$+LEFT$(F1$,F3%-1)
2400 F2$=F2$+STR$(T1)
2410 L3%=L1%-F4%
2420 IFL3%<>0THENF2$=F2$+RIGHT$(F1$,L3%)
2430 F1$=F2$:GOTO2210
2440 L2%=LEN(F2$):T1=0:F1%=0:A1$="":F2%=0:A2$="":OS%=0:FG%=0:CZ%=0:KX%=1
2450 FORK%=KX%TOL2%
```

```
2460 A$=MID$(F2$,K%,1):CU%=ASC(A$)
2470 IFCU%>64ANDCU%<91THENF1%=F1%+1:A1$=A1$+A$:KW%=K%+1:GOTO2550ELSEIFCU%>47ANDC
U%<58ORCU%=46THENF2%=F2%+1:A2$=A2$+A$:KW%=K%+1:GOTO2550
2480 IFCU%=94THENKW%=K%:EX%=EX%-1:GOTO2560
2490 IFCU%=42THENIFEX%=0THENKW%=K%:ML%=ML%-1:GOTO2560ELSEGOTO2540
2500 IFCU%=47THENIFEX%=0THENKW%=K%:DV%=DV%-1:GOTO2560ELSEGOTO2540
2510 IFCU%=43ORCU%=45THENIFEX%=0ANDML%=0ANDDV%=0THENKW%=K%:GOTO2560ELSE2540
2520 IFCU%=32THENCZ%=CZ%+1
2530 KW%=K%+1:GOTO2550
2540 A1$="":A2$="":F1%=0:F2%=0:FG%=1:KW%=K%+1
2550 NEXTK%
2560 IFF1%=0THENT2=VAL(A2$):CZ%=CZ%+LEN(A2$):A2$="":F2%=0:GOTO2610
2570 FORI%=1TOMR%
2580 IFA1$=LEFT$(YA$(I%),LEN(A1$))THENY1%=I%:CZ%=CZ%+LEN(A1$):A1$="":GOTO2600
2590 NEXT
2600 X1%=VAL(A2$):CZ%=CZ%+LEN(A2$):T2=VAL(AR$(X1%,Y1%)):A2$="":F1%=0:F2%=0
2610 IFOS%=0THENT1=T2:OS%=CU%:IFKW%<L2%+1THENKX%=K%+1:GOTO2450
2620 CZ%=CZ%+1
2630 IFOS%=43THENT1=T1+T2ELSEIFOS%=45THENT1=T1-T2ELSEIFOS%=42THENT1=T1*T2ELSEIFO
S%=47THENT1=T1/T2ELSEIFOS%=94THENT1=T1^T2
2640 OS%=CU%
2650 IFKW%=L2%+1ANDFG%=0THEN2680
2660 L9%=KW%-CZ%-1:L8%=L2%-KW%+1:A3$=LEFT$(F2$,L9%)+STR$(T1)+RIGHT$(F2$,L8%):F2$
=A3$
2670 GOTO2440
2680 T2=INT(T1*100)/100:A$=STR$(T2):N%=LEN(A$)
2690 GOSUB2700:RETURN
2700 FORK%=1TON%
2710 IFMID$(A$,K%,1)<>""THEN2730
2720 NEXTK%
2730 AR$(XD%,YD%)=RIGHT$(A$,N%-K%)
2740 RETURN
2750 LA%=L1%:P1%=INSTR(IN%+1,F1$,"("):F3%=P1%:FL%=0
2760 P1%=INSTR(F3%+1,F1$,"("):P2%=INSTR(F3%+1,F1$,")")
2770 IFP1%=0ORP2%<P1%THENPP%=PP%-1:F4%=P2%:FL%=1:F2$=MID$(F1$,F3%+1,P2%-F3%-1):G
OSUB2440ELSERETURN
2780 T3=INT(T1):A$=STR$(T3):RETURN
2790 IFERR=14THENCLS:PRINT"Fin  espacio reservado para variables":FORK=1TO10000:
NEXT:RESUME130
2800 IFERR=250THENLOCATE1,18:PRINT"El numero tiene mas de 8 cifras":FORK%=1TO100
00:NEXT:RESUME130
2810 IFERR=252THENLOCATE1,18:PRINT"El resultado tiene mas de 8 cifras":FORK%=1TO
10000:NEXT:AR$(XD%,YD%)="":TP%(XD%,YD%)=0:RESUME130
2820 IFERR=53ORERR=70THENLOCATE0,18:PRINT"El disco no esta preparado ":FORK%=1TO
10000:NEXT:RESUME2950
2830 IFERR=7THENCLS:LOCATE0,10:PRINT"Demasiadas filas o columnas":FORK%=1TO10000
:NEXT:RESUME70
2840 ONERRORGOTO0
2850 END
2860 CLS:QT%=0
2870 LOCATE0,0:PRINTTAB(10);"Hoja electronica":PRINTTAB(16);"
    "
2880 PRINT" W W W W W W W W W W W W W W W W W W W W W W W W W W W W W W W W
W W W W W W"
```

```
2890 LOCATE0,18:PRINT"Leer/Crear tablero"
2900 A$=INKEY$:IFA$=""THEN2900
2910 IFA$="L"ORA$="l"THEN2950
2920 IFA$="C"ORA$="c"THEN80
2930 GOTO2900
2940 ERASEAR$,AF$,TP%
2950 CLS:LOCATE0,8:PRINT"Prepara el cassette o el disco  para los datos"
2960 LOCATE0,12:PRINT"nombre del fichero a cargar":LINEINPUTA$
2970 OPENA$FORINPUTAS#1
2980 INPUT#1,MC%,MR%
2990 MC%=6:MR%=60:DIMAR$(MC%,MR%),AF$(MC%,MR%),TP%(MC%,MR%)
3000 FORK%=1TOMC%
3010 FORJ%=1TOMR%
3020 INPUT#1,AR$(K%,J%),AF$(K%,J%)
3030 INPUT#1,TP%(K%,J%)
3040 NEXTJ%:NEXTK%
3050 CLOSE#1
3060 GOTO130
3070 REM RUTINA DE ERRORES
3080 RESUME 3090
3090 RETURN
3100 SOUND 0,100:SOUND 1,15
3110 SOUND 2,255:SOUND 3,15
3120 SOUND 7,1:SOUND 8,15
3130 SOUND 7,&B11110100:SOUND 8,15
3140 SOUND 8,16
3150 SOUND 9,0
3160 SOUND 12,1
3170 SOUND 13,0
3180 GOTO 3100
```

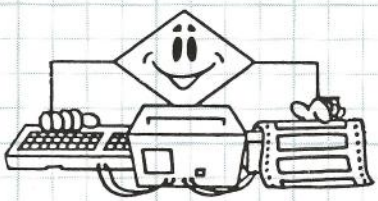


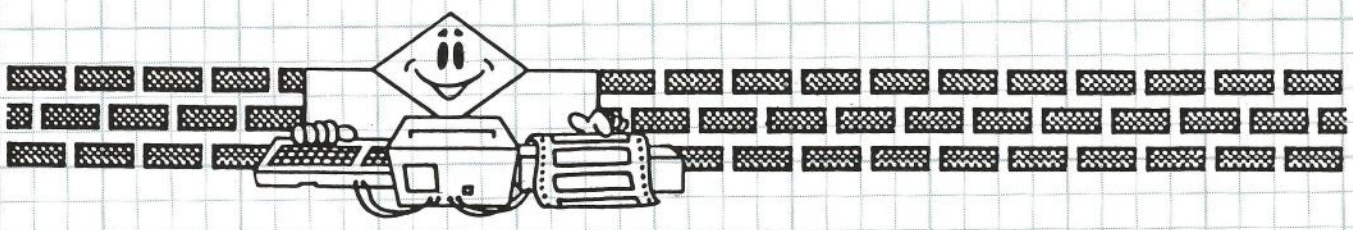


LA BRUJA

```
40 COLOR 1,15,6:S%=0
50 KEY OFF:X=100:Y=170:Z=4:P=240:Q=10:R=0:N=6:T%=0
60 SCREEN 2:COLOR1,15,6
70 LINE(0,191)-(255,181),7,BF
80 RESTORE :FOR X=1 TO 7:S$="":FOR Y=1 TO 8:READ D:S$=S$+CHR$(D):NEXT Y:SPRITE$(
X)=S$: NEXT X
90 DATA 32,32,32,252,32,32,32,0
100 OPEN "grp:" FOR OUTPUT AS#1
110 DATA 0,0,0,1,1,3,1,7
120 DATA 64,224,224,240,240,248,112,240
130 DATA 4,1,0,1,3,7,12,24
140 DATA 240,224,192,192,224,224,224,243
150 DATA 255,3,7,7,15,3,0,0
160 DATA 252,243,248,248,252,240,48,16
170 CIRCLE (25,25),25,5:PAINT (25,25),5
180 LINE (0,171)-(255,171),2
190 LINE (0,171)-(50,43),2:LINE(50,43)-(123,56),2:LINE (123,56)-(169,169),2:LINE
 (169,169)-(184,101),2:LINE(184,101)-(207,23),2:LINE(207,23)-(255,156),2
200 PAINT (100,100),2
210 STRIG(0) ON
220 ON STRIG GOSUB 480
230 PSET (92,174):PRINT#1,"GASOLINA"
240 S=STICK(0)
250 P=P-Z:IFP<0 THEN P=255:Q=Q+N
260 IF Q>150 THEN X$="LA BRUJA HA ATERRIZADO!":GOSUB 530
270 IF T%>0 THEN Q=10:P=240:R=0:N=N+4:Z=Z+1:T%=0:PLAY"cdc":GOTO 230
280 IF S=1 THEN Y=Y-Z
290 IF S=2 THEN Y=Y-Z:X=X+Z
300 IF S=3 THEN X=X+Z
310 IF S=4 THEN X=X+Z:Y=Y+Z
320 IF S=5 THEN Y=Y+Z
330 IF S=6 THEN Y=Y+Z:X=X-Z
340 IF S=7 THEN X=X-Z
350 IF S=8 THEN X=X-Z:Y=Y-Z
360 IF X<1 THEN X=1
370 IF Y<1 THEN Y=1
380 IF X>238 THEN X=238
390 IF Y>180 THEN Y=180
```

```
400 PUT SPRITE 2,(P,Q),7,2
410 PUT SPRITE 3,(P+8,Q),7,3
420 PUT SPRITE 4,(P,Q+8),7,4
430 PUT SPRITE 5,(P+8,Q+8),7,5
440 PUT SPRITE 6,(P,Q+16),7,6
450 PUT SPRITE 7,(P+8,Q+16),7,7
460 PUT SPRITE 1,(X,Y),1,1
470 GOTO 240
480 R=R+10:LINE (255-R,191)-(255,181),15,BF
490 PLAY "f-"
500 IF X>P AND X<P+10 AND Y>Q AND Y<Q+16 THEN S%=S%+1: T%=1:RETURN
510 IF R>250 THEN X$="LA GASOLINA SE HA AGOTADO":GOSUB 530
520 RETURN
530 SCREEN 0:LOCATE 5,5:PRINTX$
540 LOCATE 5,10:PRINT "TU PUNTUACION HA SIDO=";S%
550 PRINT:PRINT:PRINT "     OTRA PARTIDA SI O NO [S/N]"
560 F$=INKEY$:IF F$="S" OR F$="s"THEN RUN
570 IF F$="n" OR F$="N" THEN PRINT :PRINT:PRINT"ADIOS. GRACIAS POR HABER JUGADO!
":END
580 GOTO560
```





DARDOS

```
10 REM **************
20 REM * GTS -  MSX *
30 REM **************
40 REM
50 REM
60 DART=1:GO=2
70 DIM PO(10),TT(40)
80 REM
90 REM INICIALIZACION
100 REM
110 KEYOFF
120 SCREEN 3,,255
130 GOSUB 3500
140 FOR N=1 TO 50:A$=INKEY$:NEXT N
150 COLOR 3,1,1:CLS
160 INPUT"VALOR INICIAL (101/801)";VINZ
170 IF VINZ>801 OR VINZ<101 THEN 150
180 CLS:INPUT"CUANTAS MANGAS (1/15)";TIRI
190 IF TIRI>15 OR TIRI<1 THEN 180
200 CLS:INPUT"NIVEL DE DIFICULTAD  (1-7)";LIV
210 IF LIV>7 OR LIV<1 THEN 200
220 LIV=LIV+1
230 CLS:INPUT"TECLADO O JOYSTICK (T/J)";IN$
240 KEE=0
250 LET KEE=KEE-(IN$="J")
260 IF IN$<>"T" AND IN$<>"J" THEN 230
270 WFS=VINZ:TFS=VINZ
280 REM
290 REM
300 REM
310 GOSUB 3740
320 GOSUB 2300
330 GOSUB 720
340 HH=(LIV*2)+1
350 LAA=0:LBB=0
360 REM
```

```
370 REM LECTURA TECLADO
380 REM
390 FOR N=1 TO 500:NEXTN
400 PLAY"O4T99V9C8D8","O5T99V9C8D8"
410 A=30:B=30
420 LINE (168,11)-(247,21),8,BF
430 PRESET (177,13)
440 IF GO/2=INT(GO/2)THEN PRINT#1,"  No.1  " ELSE PRINT#1,"  No.2  "
450 X=STICK(KEE)
460 RN=-LIV+(INT(RND(1)*HH))
470 UXX=UXX+((X=1ANDB>14)*LIV*2)
480 UII=UII-((X=3ANDA<150)*LIV*2)
490 UXX=UXX-((X=5ANDB<160)*LIV*2)
500 UII=UII+((X=7ANDA>10)*LIV*2)
510 REM
520 REM
530 REM
540 IF STRIG(KEE)=-1THEN GOTO 620
550 REM
560 REM
570 REM
580 GOTO 1660
590 REM
600 REM
610 REM
620 GOSUB 3930
630 PLAY"O1T255L64E"
640 PO((DART*2)-1)=A
650 PO((DART*2))=B-2
660 FOR N=1 TO 200:NEXT N
670 GOTO 1770
680 DART=DART+1
690 IF DART>3 THEN DART=1:GOSUB 2570:FOR N=1 TO 10:PO(N)=0:NEXT N:GOTO 390
700 A=30:B=30
710 GOTO 450
720 P=3.145927#
730 SCREEN 2,2,0
740 COLOR 1,4,1:CLS:COLOR 15,1,1
750 GOSUB 1530
760 A=30:B=30
770 PUTSPRITE 5,(A,B),15,0
780 CIRCLE (81,96),73,10
790 PAINT (81,96),10
800 LINE (168,10)-(248,180),1,BF
810 LINE (169,133)-(247,133),15
820 LINE (207,20)-(207,133),15
830 LINE (168,11)-(247,21),8,BF
840 PRESET (9,2)
850 COLOR 15
860 PRINT#1,"PLAYER 1"
870 LINE (0,0)-(255,10),11,BF
880 PRESET (0,2)
890 COLOR 1
900 PRINT#1,"            DARDOS MSX
```

```
910 LINE (0,181)-(255,191),11,BF
920 PRESET (4,183)
930 PRINT#1,"     AL MEJOR DE";TIRI;"MANGAS.
940 RESTORE 990
950 FOR N=1 TO 8
960 READ R
970 CIRCLE (81,96),R,1
980 NEXT N
990 DATA 83,65,63,57,40,33,8,3
1000 PAINT (81,20),1
1010 PAINT (81,96),1
1020 FOR N=P/20 TO P*2 STEP P/10
1030 CC=COS(N)
1040 SS=SIN(N)
1050 LINE (81+73*CC,96+73*SS)-(81+8*CC,96+8*SS)
1060 NEXT N
1070 FOR N=P/5 TO P*2 STEP P/5
1080 CC=COS(N)
1090 SS=SIN(N)
1100 PAINT (81+48*CC,96+48*SS),1
1110 PAINT (81+20*CC,96+20*SS),1
1120 CC=COS(N-(P/10))
1130 SS=SIN(N-(P/10))
1140 PAINT (81+61*CC,96+61*SS),1
1150 PAINT (81+35*CC,96+35*SS),1
1160 NEXT N
1170 COLOR 15
1180 PRESET (174,24)
1190 PRINT#1,"M=";LAA
1200 PRESET (214,24)
1210 PRINT#1,"M=";LBB
1220 PRESET (170,32)
1230 PRINT#1,WFS
1240 PRESET (210,32)
1250 PRINT#1,TFS
1260 REM
1270 REM
1280 REM
1290 RESTORE 1350
1300 FOR N=1 TO 31
1310 READ X,Y,A$
1320 PRESET (X,Y)
1330 PRINT#1,A$
1340 NEXT N
1350 DATA 75,20,"2",81,20,"0",102,23
1360 DATA "1",127,36,"8",121,36,"1"
1370 DATA 139,53,"4",147,73,"1",153
1380 DATA 73,"3",152,92,"6"
1390 DATA 147,111,"1",153,111,"0"
1400 DATA 139,130,"1",145,130,"5"
1410 DATA 126,150,"2",102,161,"1"
1420 DATA 108,161,"7",79,167,"3",52
1430 DATA 161,"1",58,161,"9",34,150
1440 DATA "7",17,137,"1",22,137
1450 DATA "6",8,114,"8",4,93,"1",9
```

```
1460 DATA 93,"1",7,75,"1",11,75,"4"
1470 DATA 18,51,"9",32,33
1480 DATA "1",38,33,"2",54,23,"5"
1490 RETURN
1500 REM
1510 REM
1520 REM
1530 GOSUB 3800
1540 B$=""
1550 RESTORE 1620
1560 FOR N=1 TO 32
1570 IFN<9 THEN READ A ELSE A=0
1580 B$=B$+CHR$(A)
1590 NEXT N
1600 SPRITE$(0)=B$
1610 RETURN
1620 DATA 0,130,68,40,16,40,68,130
1630 REM
1640 REM
1650 REM
1660 IF A<10 OR A>150 OR B<14 OR B>160 THEN RN=0
1670 IF RND(1)>.5 THEN 1680 ELSE 1700
1680 IF RND(1)>.5 THEN A=A+UII-RN:B=B+UXX+RN ELSE A=A+UII-RN:B=B+UXX-RN
1690 GOTO 1710
1700 IF RND(1)>.5 THEN A=A+UII+RN:B=B+UXX+RN ELSE A=A+UII-RN:B=B+UXX-RN
1710 UXX=0:UII=0
1720 PUTSPRITE 5,(A,B),15,0
1730 GOTO 450
1740 REM
1750 REM
1760 REM
1770 NUM=0:X=A+3.1:Y=B+5.1
1780 MES$="Simple"
1790 IF X>=81 AND Y>=96 THEN PO=2:X1=X-81:Y1=Y-96
1800 IFX<81 AND Y>=96 THEN PO=3:X1=81-X:Y1=Y-96
1810 IFX<81 AND Y<96THENPO=4:X1=81-X:Y1=96-Y
1820 IFX>=81 AND Y<96THENPO=1:X1=X-81:Y1=96-Y
1830 REM
1840 REM CALCULA ANGULO Y DISTANCIA
1850 REM
1860 R=INT((X1^2+Y1^2)^.5)
1870 ANG=(ATN(Y1/X1))
1880 DEG=(ANG/(2*P))*360
1890 REM
1900 REM REGULA ANGULO
1910 REM
1920 IF PO=1 OR PO=3 THEN DEG=90-DEG
1930 ANG=((PO*90)-90)+DEG
1940 REM
1950 REM
1960 REM
```

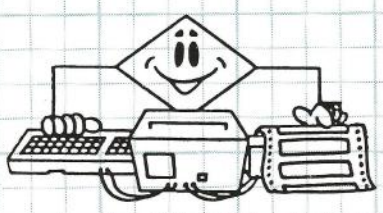
```
1970 IF R<3 THEN TM=TM+50:MES$="DIANA  50":GOTO 2030
1980 IF R<8 THEN TM=TM+25:MES$="Centro 25":GOTO 2030
1990 IF R>=63 THEN MES$="Fuera":GOTO 2400
2000 NUM=INT(ANG/9)+1
2010 IF R>54ANDR<63 THEN TM=TM+(2*TT(NUM)):MES$="Doble"
2020 IF MES$="Simple" THEN TM=TM+TT(NUM)
2030 IF GO/2=INT(GO/2)AND WFS-TM=0 AND MES$="Doble"THEN 2130
2040 IF GO/2<>INT(GO/2)AND TFS-TM=0 AND MES$="Doble" THEN 2190
2050 REM
2060 REM
2070 REM
2080 IF TM=180 THEN PLAY"O4T150L8CDEFEDEFGFE2","O5T150L8CDEFEDEFGFE2"
2090 GOTO 2400
2100 REM
2110 REM FIN JUGADOR  1
2120 REM
2130 GOSUB 2250
2140 LAA=LAA+1
2150 GOTO 3000
2160 REM
2170 REM FIN JUGADOR 2
2180 REM
2190 GOSUB 2250
2200 LBB=LBB+1
2210 GOTO 3000
2220 REM
2230 REM MUSICA
2240 REM
2250 PLAY"V13O4T160L4CDCDEDEFGFFED2","V13O5T160L4CDCDEDEFGFFED2"
2260 RETURN
2270 REM
2280 REM
2290 REM
2300 RESTORE 2350
2310 FORN=1TO40
2320 READ A
2330 TT(N)=A
2340 NEXTN
2350 DATA 20,1,1,18,18,4,4,13,13,6,6,10,10,15,15,2,2,17,17,3,3,19,19,7,7,16,16,8
,8,11,11,14,14,9,9,12,12,5,5,20
2360 RETURN
2370 REM
2380 REM
2390 REM
2400 PRESET (172,135+DART*9)
2410 COLOR 15
2420 IF NUM=0 THEN PRINT#1,MES$
2430 IF NUM<>0 THEN PRINT#1,MES$;TT(NUM)
2440 LINE (168,135)-(245,143),1,BF
2450 PRESET (172,136)
2460 IF(GO/2)=INT(GO/2) AND WFS-TM<2 THEN PRINT#1,"SUPERADO":DART=3:GOTO 680
2470 IF(GO/2)<>INT(GO/2) AND TFS-TM<2 THEN PRINT#1,"SUPERADO":DART=3:GOTO 680
2480 IF(GO/2)=INT(GO/2)THEN PRINT#1,"Resto:";WFS-TM
2490 IF(GO/2)<>INT(GO/2)THEN PRINT#1,"Resto:";TFS-TM
2500 LINE (210,171)-(245,180),1,BF
2510 PRESET (172,171)
```

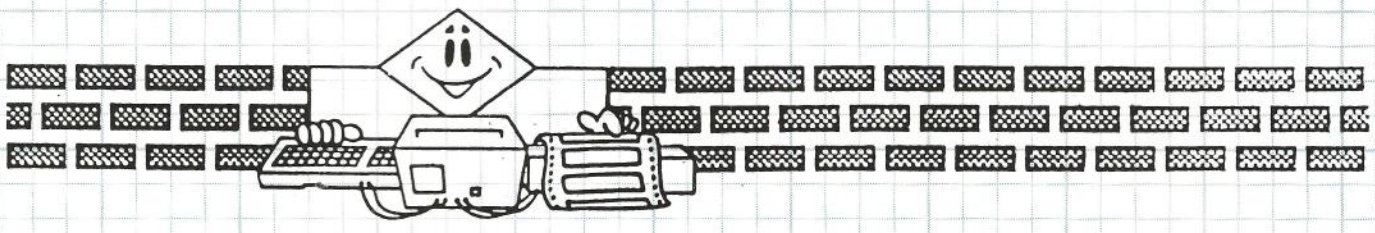
```
2520 PRINT#1,"Total";TM
2530 GOTO 620
2540 REM
2550 REM MOVIMIENTO MANO
2560 REM
2570 HXA=255:HYB=180:FOR N=2 TO 5
2580 LET X=PO((N*2)-3)
2590 LET Y=PO((N*2)-2)
2600 HXA=HXA+(3*(HXA>X))
2610 HXA=HXA-(3*(HXA<X))
2620 HYB=HYB-(3*(HYB<Y))
2630 HYB=HYB+(3*(HYB>Y))
2640 PUTSPRITE 1,(HXA,HYB),6,2
2650 IF N>2 THEN PUTSPRITE 2,(HXA,HYB+2),15,1
2660 IF ABS(HXA-X)<4AND ABS(HYB-Y)<4 THEN GOSUB 2680:NEXT N:GOTO 2710
2670 GOTO 2580
2680 IFN=3THENPUTSPRITE3,(0,0),0,8
2690 IFN=4THENPUTSPRITE4,(0,0),0,8
2700 RETURN
2710 PUTSPRITE N,(0,0),0,4
2720 FOR N=1TO2:PUTSPRITE N,(255,192),0,10:NEXT N
2730 LINE (168,134)-(248,180),1,BF
2740 IF RET=1 THEN RETURN
2750 IF GO/2=INT(GO/2) AND INT ((LAA+LBB)/2)=(LAA+LBB)/2 THEN GOSUB 2870
2760 IF GO/2=INT(GO/2) AND INT((LAA+LBB)/2)<>(LAA+LBB)/2 THEN GOSUB 2820
2770 IF GO/2<>INT(GO/2) THEN GOSUB 2920
2780 GO=GO+1
2790 IF GO>23 THEN GOSUB 3140
2800 A=30:B=30:TM=0
2810 RETURN
2820 IF WFS-TM>1 THEN WFS=WFS-TM
2830 LINE (1677,23+INT(GO/2)*8)-(199,16+INT(GO/2)*8),15
2840 PRESET (170,24+INT(GO/2)*8)
2850 PRINT#1,WFS
2860 RETURN
2870 IF WFS-TM>1 THEN WFS=WFS-TM
2880 LINE (177,31+INT(GO/2)*8)-(199,24+INT(GO/2)*8),15
2890 PRESET (170,32+INT(GO/2)*8)
2900 PRINT#1,WFS
2910 RETURN
2920 IF TFS-TM>1 THEN TFS=TFS-TM
```

```
2930 LINE (217,31+INT(GO/2)*8)-(238,24+INT(GO/2)*8),15
2940 PRESET (210,32+INT(GO/2)*8)
2950 PRINT#1,TFS
2960 RETURN
2970 REM
2980 REM
2990 REM
3000 IF LAA>INT(TIRI/2) THEN 3290
3010 IF LBB>INT(TIRI/2) THEN 3320
3020 WFS=VINZ:TSF=VINZ
3030 GOSUB 3140
3040 PRESET (174,24)
3050 PRINT#1,"M=";LAA
3060 PRESET (214,24)
3070 PRINT#1,"M=";LBB
3080 TM=0
3090 PART=1:RET=1:GOSUB 2570:RET=0
3100 TRT=LAA+LBB
3110 IF TRT/2=INT(TRT/2)THEN GO=2
3120 IF TRT/2<>INT(TRT/2)THEN GO=3
3130 GOTO 390
3140 LINE (168,24)-(248,180),1,BF
3150 LINE (169,133)-(247,133),15
3160 LINE (207,20)- (207,133),15
3170 PRESET (174,24)
3180 PRINT#1,"M=";LAA
3190 PRESET (214,24)
3200 PRINT#1,"M=";LBB
3210 PRESET (170,32)
3220 PRINT#1,WFS
3230 PRESET (210,32)
3240 PRINT#1,TFS
3250 GO=2:RETURN
3260 REM
3270 REM FIN DE PARTIDA
3280 REM
3290 GOSUB 3370
3300 PRINT#1," VENCE EL No. 1 "
3310 GOTO 3410
3320 GOSUB 3370
3330 PRINT#1," VENCE EL No. 2 "
3340 GOTO 3410
3350 RET=1:GOSUB 2570:RET=0
3360 GOSUB 3740
3370 LINE (40,50)-(199,145),13,BF
3380 LINE (45,55)-(195,140),15,BF
3390 PRESET (60,95):COLOR 12
3400 RETURN
3410 PRESET (65,150)
3420 LINE (0,182)-(255,191),10,BF
```

```
3430 COLOR 10:PSET (62,183)
3440 IF KEE=0 THEN COLOR 1:PRINT#1,"PREMI SPAZIO"
3450 IF KEE=1 THEN COLOR 1:PRINT#1,"PREMI FIRE"
3460 IF STRIG(KEE)=-1 THEN RUN ELSE GOTO 3460
3470 REM
3480 REM TITULO
3490 REM
3500 GOSUB 3740
3510 COLOR 4,1,1:CLS
3520 OPEN "GRP:"FOR OUTPUT AS #1
3530 COLOR 4,1,1:CLS
3540 GOSUB 3640
3550 FOR B=1TO3
3560 FOR N=1TO13
3570 PRESET (30,79),15
3580 COLOR N:PRINT#1,"DARDOS!"
3590 FORT=1TO40:NEXT T,N,B
3600 RETURN
3610 REM
3620 REM
3630 REM
3640 RESTORE3690
3650 FORN=1TO6:READ A,C
3660 LINE(0,A)-(255,A),C
3670 NEXTN
3680 LINE(0,72)-(255,104),15,BF
3690 DATA 60,12,64,9,68,4,109,4,113,9,117,12
3700 RETURN
3710 REM
3720 REM MUSICA PRINCIPAL
3730 REM
3740 PLAY"V1304T120L8D4EF2GFE4GFEDE2","V1305T120L8D4EF2GFE4GFEDE2","V1306T120L8D
4EF2GFE4GFEDE2"
3750 PLAY"V1304T120L8G4FED4CDEDC2DE4","V1305T120L8G4FED4CDEDC2DE4","V1306T120L8G
4FED4CDEDC2DE4"
3760 RETURN
3770 REM
3780 REM
3790 REM
3800 DATA 0,0,13,250,13,0,0,0,0,0,0,0,0,0,0,0,0,31,126,252,126,31,0,0,0,0,0,0,0,
0,0,0
3810 DATA 0,5,6,6,3,35,99,99,119,63,63,31,15,15,7,7,0,144,216,216,108,108,108,25
2,252,252,252,252,252,252,248,248
3820 RESTORE 3770
3830 FOR N=1TO32:READ A
3840 B$=B$+CHR$(A):NEXTN
3850 SPRITE$(1)=B$
3860 B$="":FOR N=1 TO 32
```

```
3870 READ A:B$=B$+CHR$(A):NEXTN
3880 SPRITE$(2)=B$
3890 RETURN
3900 REM
3910 REM
3920 REM
3930 PUTSPRITE 5,(0,0),0,4
3940 FOR N=255TOA+3 STEP-2
3950 PUTSPRITE DART+1,(N,B),15,1
3960 NEXT N
3970 RETURN
```

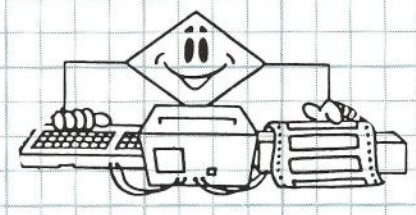




SISTEMAS

```
1 REM Copyright 1985 by J.L.T. XV.
5 SCREEN3
10 OPEN"GRP:"AS#1
11 DRAW"BM8,10":PRINT#1,"SISTEMAS":DRAW"BM8,50":PRINT#1,"LINEALES":DRAW"BM107,10
0":PRINT#1,"BY":DRAW"BM8,150":PRINT#1,"JLT. XV."
20 FORJ=0TO3000:NEXTJ:COLOR15,4,4:SCREEN 0:WIDTH39:LOCATE0,0:PRINT"SISTEMAS DE E
CUACIONES LINEALES POR EL METODO DE SUSTITUCION."
21 LOCATE0,4:PRINT" Este programa  resuelve,  paso a paso,";"sistemas de ecuacio
nes lineales, de dosecuaciones  con dos inc"gnitas por el"
22 LOCATE0,7:PRINT"mOtodo de sustituci"n.",,," Introduce  los valores, y  pulsa
tecla";"cuando te lo pida."
50 GOSUB10000:CLS
100 LOCATE0,0:PRINT"AX+BY=C",,"DX+EY=F",," W W W W W W W",,,,"INTRODUCE LOS VALO
RES."
102 INPUT"A=";X1:INPUT"B=";X2:INPUT"C=";X3:INPUT"D=";X4:INPUT"E=";X5:INPUT"F=";X
6
110 GOSUB10000:CLS
120 Z=X2:GOSUB2000:A$=STR$(X1)+"X"+S$+"Y":Z=X5:GOSUB2000:B$=STR$(X4)+"X"+S$+"Y":
IFLEN(A$)>LEN(B$)THENM=LEN(A$)ELSEM=LEN(B$)
122 LOCATEM-LEN(A$),0:PRINTA$;"=";X3:LOCATEM-LEN(B$),1:PRINTB$;"=";X6
124 IFLEN(STR$(X3))>LEN(STR$(X6))THENN=LEN(STR$(XE))ELSEN=LEN(STR$(X6))
126 FORI=0TOM+N:LOCATEI,2:PRINT" W":NEXTI
200 LOCATE0,18:PRINT"DESPEJAMOS LA X DE LA PRIMERA ECUACION":GOSUB1000:LOCATE0,4
:PRINT"(*) ";E$:GOSUB10000
210 LOCATE0,18:PRINT" SUSTITUIMOS LA X EN LA 2& ECUACION":GOSUB1010:LOCATE0,5:PR
INTE$:GOSUB10000
220 LOCATE0,18:PRINT"        QUITAMOS EL PARENTESIS":GOSUB1020:LOCATE0,6:PRINTE$:
GOSUB10000
230 LOCATE0,18:PRINT"         QUITAMOS EL COCIENTE":GOSUB1030:LOCATE0,7:PRINTE$:G
OSUB10000
240 LOCATE0,18:PRINT"       REAGRUPAMOS LOS TERMINOS":GOSUB1040:LOCATE0,8:PRINTE$
:GOSUB10000
250 LOCATE0,18:PRINT"         SACAMOS FACTOR COMUN":GOSUB1050:LOCATE0,9:PRINTE$:G
OSUB10000
260 LOCATE0,18:PRINT"            DESPEJAMOS LA Y":GOSUB1060:LOCATE0,10:PRINTE$:GO
SUB10000
```

```
270 Y=(X1*X6-X4*X3)/(X1*X5-X2*X4):LOCATE0,18:PRINT"                    DIVIDIMOS":LOCA
TE0,11:PRINT"Y=";Y:GOSUB10000
280 Z=-X2:GOSUB2000:E$="X=[";STR$(X3)+S$+"(";STR$(Y)+")]/";STR$(X1):LOCATE0,18:P
RINT"        SUSTITUIMOS LA Y EN (*)":LOCATE0,12:PRINTE$:GOSUB10000
290 X=(X3-X2*Y)/X1:LOCATE0,18:PRINT"                    OPERAMOS":LOCATE0,13:PRINT"X="
;X:GOSUB10000:GOSUB10100
1000 Z=-X2:GOSUB2000:E$="X=[";STR$(X3)+S$+"Y]/";STR$(X1):RETURN
1010 A$=E$:Z=X5:GOSUB2000:E$=STR$(X4)+MID$(A$,3)+S$+"Y=";STR$(X6):RETURN
1020 Z=-X2*X4:GOSUB2000:R$=S$:Z=X5:GOSUB2000:E$="[";STR$(X3*X4)+R$+"Y]/";STR$(X1
)+S$+"Y=";STR$(X6):RETURN
1030 Z=X1*X5:GOSUB2000:E$=STR$(X4*X3)+R$+"Y"+S$+"Y=";STR$(X1*X6):RETURN
1040 P$=S$:Z=-X3*X4:GOSUB2000:E$=R$+"Y"+P$+"Y=";STR$(X1*X6)+S$:RETURN
1050 E$="[";R$+P$+"]Y=";STR$(X1*X6)+S$:RETURN
1060 E$="Y=";STR$(X1*X6-X4*X3)+"/";STR$(-X4*X2+X1*X5):RETURN
2000 IFZ<0THENS$=STR$(Z)ELSES$="+"+MID$(STR$(Z),2)
2010 RETURN
10000 LOCATE0,19:PRINT"      PULSA TECLA PARA CONTINUAR"
10002 T$=INKEY$:IFT$=""GOTO10002
10004 FORI=0TO39:FORJ=17TO19:LOCATEI,J:PRINT" ":NEXTJ:NEXTI:RETURN
10100 GOSUB10004:LOCATE0,18:PRINT"PULSA O PARA HACER OTRO SISTEMA.","PULSA F PAR
A FINALIZAR."
10102 T$=INKEY$:IFT$=""THENGOTO10102ELSEIFT$="O"ORT$="o"THENGOTO10110ELSEIFT$="F
"ORT$="f"THENGOTO10120
10110 CLS:GOTO 100
10120 CLS:LOCATE4,10:PRINT"PARA EL SIGUIENTE PROGRAMA"
10130 LOCATE4,12:PRINT"PULSA PLAY EN EL CASSETTE"
10140 CLOAD
10150 END
```



MSX

Nº 18

690 Ptas.

SOFTWARE

ATAQUE A LOS DIQUES

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